

## Claims

What is claimed is:

1. A method, comprising:

issuing PTSE information from a node, said PTSE information having SIG information that describes bandwidth which has been allocated to specific priority levels of a bandwidth resource, said bandwidth resource within an ATM PNNI network.

2. The method of claim 1 wherein said bandwidth resource is the bandwidth of a link that resides within said ATM PNNI network.

3. The method of claim 2 wherein said PTSE information is a Horizontal Link PTSE information type.

4. The method of claim 1 wherein said bandwidth resource is a portion of the bandwidth that resides within said ATM PNNI network.

5. The method of claim 4 wherein said PTSE information is a Horizontal Link PTSE information type.

6. The method of claim 5 wherein said PTSE information describes a CBR service.

7. The method of claim 5 wherein said PTSE information describes a VBR service.

8. The method of claim 5 wherein said PTSE information describes an ABR service.

9. The method of claim 5 wherein said PTSE information describes a UBR service.

10. The method of claim 1 where said issuing further comprises repeatedly issuing in a periodic fashion.

11. The method of claim 1 wherein said issuing further comprises issuing upon a change in said bandwidth's allocation to said priority levels.

12. A method, comprising:

a) updating an understanding of an ATM PNNI network after reception of PTSE information, said PTSE information having SIG information that describes bandwidth which has been allocated to specific priority levels of a bandwidth resource, said bandwidth resource within said ATM PNNI network;

b) determining a path through said network for a requested connection, said path determined in light of said updated understanding, said requested connection having a priority level, wherein said path may result in one or more connections being dropped in order to allow bandwidth for said requested connection, each of said dropped connections having a lower priority level than said priority level of said requested connection.

13. The method of claim 12 wherein said bandwidth resource is the bandwidth of a link that resides within said ATM PNNI network.

14. The method of claim 13 wherein said PTSE information is a Horizontal Link PTSE information type.

15. The method of claim 12 wherein said bandwidth resource is a portion of the bandwidth that resides within said ATM PNNI network.

16. The method of claim 15 wherein said PTSE information is a Horizontal Link PTSE information type.

17. The method of claim 16 wherein said PTSE information describes a CBR service and said requested connection can be established within said CBR service.

18. The method of claim 16 wherein said PTSE information describes a VBR service and said requested connection can be established within said VBR service.

19. The method of claim 16 wherein said PTSE information describes an ABR service and said requested connection can be established within said ABR service.

20. The method of claim 16 wherein said PTSE information describes a UBR service and said requested connection can be established within said UBR service.

21. The method of claim 16 further comprising issuing a SETUP message in order to establish said path through said network for said requested connection.

22. The method of claim 16 further comprising receiving said SETUP message and returning a CONNECT message in response.

23. A machine readable medium having stored thereon sequences of instructions, which, when executed by a digital processing system cause said digital processing system to perform a method, said method comprising:

preparing PTSE information, said PTSE information having SIG information that describes bandwidth which has been allocated to specific priority levels of a bandwidth resource, said bandwidth resource within an ATM PNNI network.

24. The machine readable medium of claim 23 wherein said bandwidth resource is the bandwidth of a link that resides within said ATM PNNI network.

25. The machine readable medium of claim 24 wherein said PTSE information is a Horizontal Link PTSE information type.

26. The machine readable medium of claim 23 wherein said bandwidth resource is a portion of the bandwidth that resides within said ATM PNNI network.

27. The machine readable medium of claim 26 wherein said PTSE information is a Horizontal Link PTSE information type.

28. The machine readable medium of claim 27 wherein said PTSE information describes a CBR service.

29. The machine readable medium of claim 27 wherein said PTSE information describes a VBR service.

30. The machine readable medium of claim 27 wherein said PTSE information describes an ABR service.

31. The machine readable medium of claim 27 wherein said PTSE information describes a UBR service.

32. The machine readable medium of claim 23 where said preparing further comprises repeatedly preparing in a periodic fashion.

33. The machine readable medium of claim 23 wherein said preparing further comprises preparing upon a change in said bandwidth's allocation to said priority levels.

34. A machine readable medium having stored thereon sequences of instructions, which, when executed by a digital processing system cause said digital processing system to perform a method, said method comprising::

a) updating an understanding of an ATM PNNI network after reception of PTSE information, said PTSE information having SIG information that describes bandwidth which has been allocated to specific priority levels of a bandwidth resource, said bandwidth resource within said ATM PNNI network;

b) determining a path through said network for a requested connection, said path determined in light of said updated understanding, said requested connection having a priority level, wherein said path may result in one or more connections being dropped in order to allow bandwidth for said requested connection, each of said dropped connections having a lower priority level than said priority level of said requested connection.

35. The machine readable medium of claim 34 wherein said bandwidth resource is the bandwidth of a link that resides within said ATM PNNI network.

36. The machine readable medium of claim 35 wherein said PTSE information is a Horizontal Link PTSE information type.

37. The machine readable medium of claim 34 wherein said bandwidth resource is a portion of the bandwidth that resides within said ATM PNNI network.

38. The machine readable medium of claim 37 wherein said PTSE information is a Horizontal Link PTSE information type.

39. The machine readable medium of claim 38 wherein said PTSE information describes a CBR service and said requested connection can be established within said CBR service.

40. The machine readable medium of claim 38 wherein said PTSE information describes a VBR service and said requested connection can be established within said VBR service.

41. The machine readable medium of claim 38 wherein said PTSE information describes an ABR service and said requested connection can be established within said ABR service.

42. The machine readable medium of claim 38 wherein said PTSE information describes a UBR service and said requested connection can be established within said UBR service.

43. The machine readable medium of claim 34 further comprising authorizing an issuance of a SETUP message in order to establish said path through said network for said requested connection.